

Section 5-3: Parallel Lines and Transversals

By the end of this lesson, you should be able to answer:

- How do you identify angles formed by parallel lines and transversals?
- How do you identify and use properties of parallel lines?

Where you might see this in the real world:

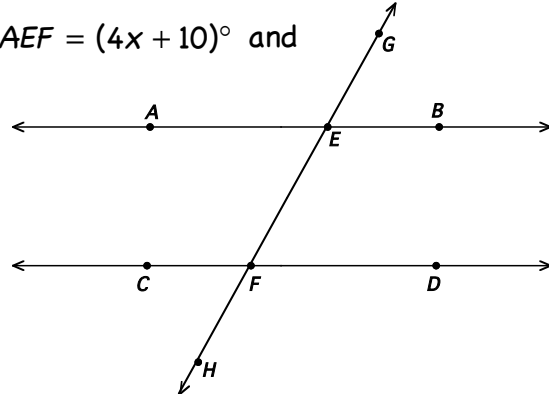
- Construction, safety, navigation, music

Define the following terms:

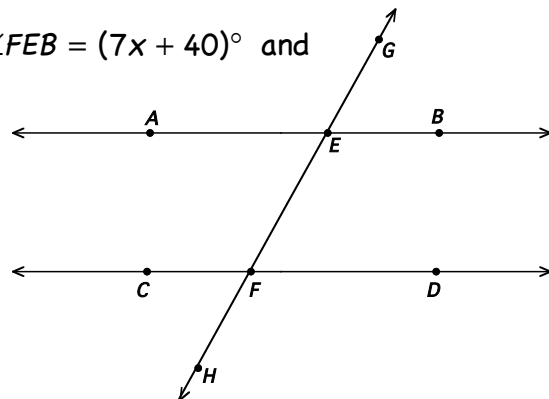
1. Parallel lines
2. Parallel planes
3. Skew lines
4. Transversal
5. Interior angles
6. Exterior angles
7. Alternate interior angles
8. Same-side interior angles
9. Alternate exterior angles
10. Corresponding angles

Parallel Line Postulates

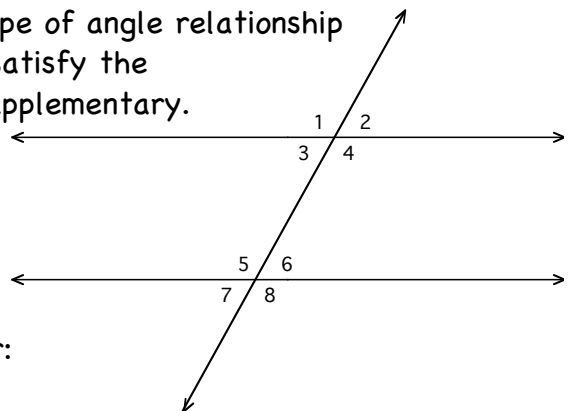
Example 1: In the figure, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$. If $m\angle AEF = (4x + 10)^\circ$ and $m\angle EFD = (2x + 20)^\circ$, find $m\angle AEF$.



Example 2: In the figure, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$. If $m\angle FEB = (7x + 40)^\circ$ and $m\angle HFD = (2x + 20)^\circ$, find $m\angle BEF$.



Example 3: Refer to the figure. For each type of angle relationship mentioned, list a pair of angles that would satisfy the relationship. For example, $\angle 1$ and $\angle 2$ are supplementary.



Complementary: Supplementary:

Vertical: Adjacent:

Interior: Alternate Interior:

Same-Side Interior: Exterior:

Alternate Exterior: Corresponding:

Homework:

“The talent of success is nothing more than doing what you can do, well.” - Henry W. Longfellow